

## P. ENT COOPERATION TREATY

## From the INTERNATIONAL BUREAU

PCT

## **NOTIFICATION OF ELECTION**

(PCT Rule 61.2)

Date of mailing (day/month/year) 28 August 2000 (28.08.00)	in its capacity as elected Office
International application No. PCT/EP00/00350	Applicant's or agent's file reference JBV/DM/P32233
International filing date (day/month/year) 17 January 2000 (17.01.00)	Priority date (day/month/year) 20 January 1999 (20.01.99)
<b>Applicant</b>	
DAVIES, David, Thomas et al	

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:

26 July 2000 (26.07.00)

in a notice effecting later election filed with the International Bureau on:

2. The election  was

was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

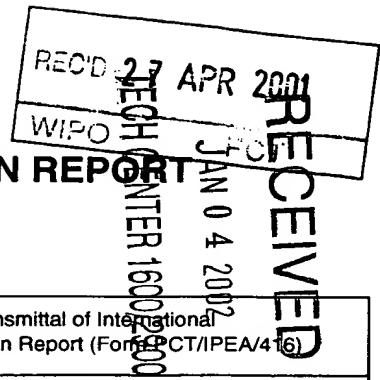
<p>The International Bureau of WIPO            34, chemin des Colombettes            1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer  <b>Nestor Santesso</b></p> <p>Telephone No.: (41-22) 338.83.38</p>
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PATENT COOPERATION TREATY

**PCT**

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference  JBV/P32233	<b>FOR FURTHER ACTION</b>	
See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)		
International application No.  PCT/EP00/00350	International filing date (day/month/year)  17/01/2000	Priority date (day/month/year)  20/01/1999
International Patent Classification (IPC) or national classification and IPC  C07D401/06		
Applicant  SMITHKLINE BEECHAM P.L.C. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I     Basis of the report
- II     Priority
- III     Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV     Lack of unity of invention
- V     Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI     Certain documents cited
- VII     Certain defects in the international application
- VIII     Certain observations on the international application

Date of submission of the demand  26/07/2000	Date of completion of this report  25.04.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Herz, C  Telephone No. +49 89 2399 8275



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/00350

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, pages:

1-41 as originally filed

### Claims, No.:

1-12 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description,        pages:
- the claims,           Nos.:
- the drawings,        sheets:

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/00350

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

## 6. Additional observations, if necessary:

### III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
  - the entire international application.
  - claims Nos. 1.

because:

- the said international application, or the said claims Nos. 1 relate to the following subject matter which does not require an international preliminary examination (*specify*):  
**see separate sheet**
- the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:
  - the written form has not been furnished or does not comply with the standard.
  - the computer readable form has not been furnished or does not comply with the standard.

### V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

#### 1. Statement

Novelty (N)	Yes:	Claims	2-12
	No:	Claims	
Inventive step (IS)	Yes:	Claims	2-12
	No:	Claims	

Industrial applicability (IA) Yes: Claims 2-12

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/EP00/00350

No: Claims

2. Citations and explanations  
**see separate sheet**

**VI. Certain documents cited**

1. Certain published documents (Rule 70.10)

and / or

2. Non-written disclosures (Rule 70.9)

**see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/EP00/00350

1. Claim 1 is directed to a therapeutical method performed on humans. Under the terms of Rule 67.1 (iv) PCT, the International Preliminary Examination Authority is not required to carry out an examination on such claim.
2. The priority documents pertaining to the present application were not available at the time of establishing this report. Hence, it is based on the assumption that all claims enjoy priority rights from the filing date of the priority document.
3. With regard to the relevant state of the art as represented by document WO98/57952 an inventive step can be acknowledged since, for the compounds claimed, the attachment of a linked piperidine moiety to the quinoline core constitutes a substantial structural difference not being obvious to a person skilled in the art.
4. The use of the terms "acyl; aryl; heterocycl; heteroaryl; heteroaroyl" throughout the claims without further definitive qualification therein renders these claims obscure in scope in that it does not indicate any specific substituents. As chemical species can be precisely defined by the identity and number of atoms involved (cf. the definitions given on pages 5 and 6) the above terms are considered to render these claims obscure in scope in that it does not indicate any specific substituents. Therefore it is not clear whether the compounds implied fall within the scope of the claims of the present application and/or constitute a solution to the problem underlying the application; the incorporation of the specific substituents given in the specification is therefore necessary (Articles 6, 33 (3) PCT).

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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CU	Cuba	LC	Saint Lucia	RU	Russian Federation		
CZ	Czech Republic	LJ	Liechtenstein	SD	Sudan		
DE	Germany	LK	Sri Lanka	SE	Sweden		
DK	Denmark	LR	Liberia	SG	Singapore		

## PENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>JBV/DM/P32233</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, Item 5 below.	
International application No. <b>PCT/EP 00/00350</b>	International filing date (day/month/year) <b>17/01/2000</b>	(Earliest) Priority Date (day/month/year) <b>20/01/1999</b>
Applicant <b>SMITHKLINE BEECHAM P.L.C. et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :
  - contained in the international application in written form.
  - filed together with the international application in computer readable form.
  - furnished subsequently to this Authority in written form.
  - furnished subsequently to this Authority in computer readable form.
  - the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
  - the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2.  Certain claims were found unsearchable (See Box I).

3.  Unity of invention is lacking (see Box II).

4. With regard to the title,

- the text is approved as submitted by the applicant.
- the text has been established by this Authority to read as follows:

**PIPERIDINYLQUINOLINES AS PROTEIN TYROSINE KINASE INHIBITORS**

5. With regard to the abstract,

- the text is approved as submitted by the applicant.
- the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No.

- as suggested by the applicant.
- because the applicant failed to suggest a figure.
- because this figure better characterizes the invention.

None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

/EP 00/00350

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D401/06 C07D401/12 C07D401/14 A61K31/445 A61K31/47  
A61P31/04

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	WO 99 37635 A (SMITHKLINE BEECHAM PLC) 29 July 1999 (1999-07-29) claims 1-16 ---	1-12
A	WO 98 57931 A (SEPRACOR INC.) 23 December 1998 (1998-12-23) claims 1-194 ---	1-12
A	WO 98 57952 A (SEPRACOR INC.) 23 December 1998 (1998-12-23) claims 1-194 ---	1-12
Y	WO 96 39145 A (RHONE-POULENC RORER PHARMACEUTICALS INC.) 12 December 1996 (1996-12-12) cited in the application claims 1-20 ---	1-12 -/-

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

\* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the International filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the International filing date but later than the priority date claimed

"T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the International search

Date of mailing of the International search report

20 April 2000

08/05/2000

Name and mailing address of the ISA

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Authorized officer

Herz, C

**INTERNATIONAL SEARCH REPORT**

International Application No

EP 00/00350

**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 97 03069 A (GLAXO GROUP LTD.) 30 January 1997 (1997-01-30) cited in the application claims 1-18 -----	1-12

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

/EP 00/00350

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 9937635	A	29-07-1999	AU	2717899 A		09-08-1999
WO 9857931	A	23-12-1998	AU	7979798 A		04-01-1999
			AU	8258698 A		04-01-1999
			EP	0991623 A		12-04-2000
			NO	996269 A		16-02-2000
			WO	9857952 A		23-12-1998
WO 9857952	A	23-12-1998	AU	7979798 A		04-01-1999
			AU	8258698 A		04-01-1999
			EP	0991623 A		12-04-2000
			NO	996269 A		16-02-2000
			WO	9857931 A		23-12-1998
WO 9639145	A	12-12-1996	US	5721237 A		24-02-1998
			AU	696456 B		10-09-1998
			AU	6104496 A		24-12-1996
			BR	9608638 A		29-06-1999
			CA	2223016 A		12-12-1996
			CZ	9703503 A		18-03-1998
			EP	0831831 A		01-04-1998
			HU	9802702 A		29-03-1999
			JP	11507355 T		29-06-1999
			SI	9620092 A		31-08-1998
			SK	166397 A		03-06-1998
WO 9703069	A	30-01-1997	AU	6613996 A		10-02-1997
			EP	0843671 A		27-05-1998
			HR	960316 A		28-02-1998
			JP	11508906 T		03-08-1999